

What is claimed is:

1. A semiconductor device comprising:

a signal line, through which a signal having a desired frequency  $f_0$  passes, formed on a semiconductor substrate; and  
a differential signal line through which a signal in opposite phase to said signal passes, or which is connected to a ground power supply,

said signal line and said differential signal line being laminated via an insulating layer so as to be substantially in parallel with each other, and

an actual wiring length  $l$  of said signal line being longer than a wiring length  $l_0$  determined by the following equation

$$l_0 = \sqrt{\frac{\frac{L}{C} + \sqrt{\frac{R^2 + 8\pi^2 f_0^2 L^2}{4\pi^2 f_0^2 C^2}}}{R^2 + 4\pi^2 f_0^2 L^2}}$$

where  $R$  represents a resistance component,  $L$  represents an inductance component, and  $C$  represent a capacitance component per unit length of said signal line in such a case that said differential signal line does not exist.

2. The semiconductor device according to claim 1, wherein said signal line has substantially the same width with said differential signal line, and said signal line is located at a position corresponding to that of said differential signal line via said insulating layer in the main part of said semiconductor substrate.

3. The semiconductor device according to claim 1, further comprising a second differential signal line formed via a second insulating layer at a side opposite to that of said differential signal line formed via said insulating layer relative to said signal line.

4. The semiconductor device according to claim 1, wherein there are at least two of said signal lines, which are formed

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forming an insulating layer on said first conductive layer;

~~patterning~~ said second conductive layer, said insulating layer, and said first conductive layer at a time to form a first wiring from said first conductive layer, and to form a second wiring from said second conductive layer.

8. The method of manufacturing a semiconductor device according to claim 7, wherein said first wiring is one of a signal line or a differential signal line through which a signal in opposite phase to a signal passing through the signal line passes, or which is connected to a ground power supply, and said second wiring is the other of said signal line and said differential signal line.

9. A method of manufacturing a semiconductor device comprising:



line and said differential signal line.

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